REMARKS

Reconsideration of the above-referenced application is respectively requested in view of the above amendments and these remarks. Claims 1-20 are currently pending.

In the Office Action, claims 2-7, 9, 10, 12, 13, 15, 18 and 19 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant notes with appreciation that the subject matter of these claims is deemed to be allowable if rewritten to include all limitations of the superseding and rejected claims. Applicant wishes to reserve the right to prosecute these claims, should further discussion regarding the base and superseding claims prove unrewarding.

According to the Office Action 1, 8, 11, 14, 17 and 20 are rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent publication No. 2004/0203463 to Chen. Applicants have carefully reviewed the statements made in the Office Action and the prior art reference and have amended independent claims 1, 8 and 17 to overcome the rejection.

In particular, Applicants have amended the body of the independent claims to indicate that the step of analyzing a portion of the bearer bits within a frame is carried out by comparing the portion of the bearer bits when the frame does not pass a predefined quality parameter with either a predefined threshold or an expected bit pattern. By comparing a portion of the received frame with a known threshold or bit pattern, the present invention identifies whether or not the received frame is an erased frame without relying on the frame itself. No new matter is added by this amendment, and adequate support is found on page 12, lines 11-16 of the application as filed.

The present invention as found in claim 1 describes a method for identifying a frame type of one or more frames wirelessly communicated. The method begins with a step of receiving a wireless communication containing a frame having a plurality of

bearer bits. The method then determines if the frame passes a predefined quality parameter. If the frame does not pass the predefined quality parameter then at least a portion of the bearer bits within the frame is analyzed to determine the frame as an erased frame. The frame is analyzed by comparing the portion of the bearer bits with at least one of a predefined threshold and an expected pattern.

The present invention in claim 8 includes the features described above. Furthermore, the frame in claim 8 is identified as a DTX frame if the portion of bits analyzed fail to exceed the threshold and the expected pattern. Similarly, if the portion of bits analyzed exceeds the threshold then it is not recognized by the expected pattern and it is considered as an erased frame.

The present invention in claim 17 is an apparatus corresponding to a method as claimed in claims 1 and 8. The apparatus includes a transceiver for receiving a frame having a plurality of bits. A frame error code decoder configured to determine the frame as a good frame when the frame satisfies a quality check. If the frame does not satisfy the quality check then the frame is analyzed by a frame type determination device. The frame is analyzed by comparing the portion of bits with at least one of a threshold and an expected pattern. If the portion of bits analyzed exceeds the threshold then it is not recognized by the expected pattern and is considered as an erased frame. Similarly, if it does not exceed the threshold then a frame type verification device coupled with the frame type determination device is utilized to identify the frame as a DTX frame. Finally, the frame is identified as a DTX frame if the portion of bits analyzed fail to exceed the threshold and the expected pattern.

In an embodiment, the present invention is directed to a method and an apparatus for identifying a frame type by analyzing a portion of the bearer bits within the frame. Analyzing the portion of the bearer bits is carried out by comparing the bearer bits with a predefined threshold value stored in a determinator of the apparatus. If the number of zero bearer bits exceeds the predefined threshold then the frame is determined as an erased frame, otherwise as a discontinuous transmission (DTX) frame. Similarly, the

frame determined as a DTX frame is further analyzed for an expected series of bits in a header of the frame. The expected series of bits would give a sequence number for the frame. If the frame has expected series then it is considered as an erased frame, otherwise as a DTX frame. Thus, the frame is cross checked twice before it is considered as a DTX frame. Moreover, the decoded bearer bits in the frame are compared with a threshold value that is predicted by the knowledge of the higher layer protocols.

In an embodiment of the invention, the comparison of frame to the threshold or the pattern is analyzed in a prioritized manner. Firstly, the portion of the bearer bits that are at the tail end of the frame is compared with a predefined threshold value. Secondly, the series of bits in the header of the frame is analyzed to determine a sequence number for the frame. Thus, the process in determining a frame type is accurate and efficient. Moreover, the process utilizes only primary channel information in determining the frame type.

On the other hand, Chen et al is directed to a technique to detect for DTX frames in a "primary" transmission that may be sent in a non-continuous manner using a "secondary" transmission that is sent during periods of no transmission for the primary transmission. The primary and secondary transmission may be the ones sent on the F-DCCH and forward power control subchannel, respectively. In one method, a determination is first made whether or not a frame received for the primary transmission in a particular frame interval is a good frame. If the received frame is not a good frame, then a determination is next made whether the received frame is a DTX frame or an erased frame based on a number of metrics determined for the primary and secondary transmissions. The metrics may include symbol error rate of the received frame, secondary transmission energy, and received frame energy.

In the Office Action, Examiner has objected to the step of "analyzing at least a portion of the bearer bits" of claims 1 and 8 with reference to steps 622, 624, 626, 628 of Chen. According to Chen, a frame is determined as a DTX frame or an erased frame based on a plurality of metrics determined for the primary transmission and secondary

transmission. The metrics include a symbol error rate (SER), energy of the received frame, and energy of the secondary transmission. Further, with reference to page 3 , lines 9-13, paragraph [0037] of Chen, the SER is determined by encoding the decoded bits for each received frame to obtain re-encoded code symbols, compares the re-encoded symbols against the recovered symbols. Thus, the frames are analyzed by comparing with its actual received symbols and not with any predefined threshold values. Moreover, Chen utilizes primary and secondary channel information for detecting a frame type unlike referring to the bearer bits and/or header within the frame transmitted through primary channel.

Further with regard to claim 8, the step "identifying the frame as a DTX when the analyzed data fails to exceed a threshold..." is referred to paragraph [0063] of Chen. According to Chen, the frame is determined as a DTX frame based on the plurality of metrics. A combined metric is computed from the received plurality of metrics and based on the value of the combined metric the frame is determined as a DTX frame. The metrics such as power control (PC) bit energy and energy of the received frame are determined during the process of extracting the decoded frame and not from the decoded frame as taught in Applicants' application. Moreover, the PC bit energy is received through secondary channel which is not employed in Applicants' application. Further, the metric SER is obtained by encoding the decoded bits for each received frame to obtain re-encoded code symbols, compares the re-encoded symbols against the recovered symbols. Thus, the frames are analyzed by comparing with its actual received symbols and not determined by comparing with a threshold value that is predetermined with the knowledge of higher layer protocols as covered in Applicants' application. Moreover, the threshold value is referred to the value computed from the plurality of received metrics and not to a predefined threshold value.

In view of the foregoing, Applicants respectfully submit that Chen does not disclose the claimed invention that analyzes at least a portion of the bits within a frame by comparing the bits to a predetermined threshold or an expected pattern. Chen employs

a SER for detecting the frame that is determined by comparing the re-encoded symbols with its own received symbols. Moreover, Chen is not utilizing the knowledge of the higher layer protocol in determining the frame type. Further, Chen utilizes secondary channel information such as PC bits for analyzing the frame, whereas in Applicants' invention, bearer portion and header information obtained from a primary channel are analyzed to determine the frame type. Chen uses metrics such as energy of the received frame and PC bits for determining a DTX frame that are obtained from a process of extracting a decoded frame and not from a decoded frame as claimed in Applicants' invention. Accordingly, Applicants respectfully submit that independent claims 1, 8 and 17 are not anticipated by Chen. As claims 11 and 14 depend on claim 8 and claim 20 depends on claim 17, Applicants also submit that the dependent claims are not anticipated by Chen for the same reasons. Applicants request that this rejection under Section 102(e) be withdrawn.

Claim 16 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of United States Patent No. 6,269,331 to Alanara et al. Applicants have amended claim 8 upon which claim 16 depends. Alanara is cited for disclosing a method for maintaining a previous transmit power level. Nonetheless, Alanara does not disclose a method and an apparatus for identifying a frame type by analyzing a portion of the bearer bits within the frame by comparing the portion of the bearer bits either to a threshold or to an expected pattern. Instead, Alanara discloses a method for transmitting a comfort noise (CN) block during discontinuous transmission mode. The CN blocks are grouped with other control messages such that a CN block can be scheduled for transmission without interruption. Applicants therefore respectfully submit that the cited combination does not disclose, teach or otherwise suggest the claimed invention. Applicants respectfully submit that claim 16 is not obvious over the cited reference for the reasons given above for claim 8. Applicants request that this rejection under Section 103(a) be withdrawn.

As the Applicants have overcome all substantive rejections and objections given by the Examiner and have complied with all requests properly presented by the

Examiner, the Applicants contend that this Amendment, with the above discussion, overcomes the Examiner's objections to and rejections of the pending claims. Therefore, the Applicants respectfully solicit allowance of the application. If the Examiner is of the opinion that any issues regarding the status of the claims remain after this response, the Examiner is invited to contact the undersigned representative to expedite resolution of the matter.

Please charge any fees associated herewith, including extension of time fees, to **50-2117**.

Respectfully submitted,
Harris et al.

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